

Strengthening Newborn Screening in North Africa and the Middle East Marrakech, Morocco, 13-15 November 2006

Country Report
Syrian Arab Republic
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Syrian Arab Republic



Demographic and economic data

- Location: Arab World (Middle East)
- Country Surface: 185.200 km²
- Population: 18.600.000 (2005)
- Population Density: 100.4 / km²
- Capital: Damascus,
Population: 3-5 million (official
estimate 2003)

Demographic and economic data

- < 18 years = 48 %
- > 60 years = 4.7 %
- Crude Death rate: 5/1000
- Birth rate: 28/1000
- Infant mortality rate (death/1000 live births): 25
- Total fertility rate (children born/woman): 3.5

Demographic and economic data

- Life expectancy: Male: 68.7
Female: 72.3
- GDP: 12.5 billion USD
- Total health exp. as % of GDP: 2.5 %
- Total health exp. / capita 65 USD
- Organisation of the health system:
33.6 % Public
66.4 % Private

Demographic and economic data

- Human resources:
 - * 23784 physician
 - * 12228 dentists
 - * 27913 nurses
 - * 5081 midwives
 - * 13339 technicians

Demographic and economic data

- Total No. of beds:
 - * 12418 in Public hospitals
 - * 6003 in Private hospitals
 - * Average person/bed = 848

Demographic and economic data

- Consanguinity rate: 20-50 (32 %)
- First – cousin marriages: 60 %

The trend of Consanguinity in Syria is declining
Now .. (Health awareness)

The only new born Screening Programme in Syria is:

“The Neonatal Screening for Congenital Hypothyroidism”

- This programme was organised to cover the major cities in the country: (Damascus, and surrounding areas, Tartous, Latakia) through regional IAEA project.

- All Blood Specimens taken from various medical centers and hospitals were analyzed at the central Lab at SAEC (Damascus)
- Most of the reagents used in the tests (TSH, T4) were prepared locally (SAEC) with the support of the IAEA.
- 67280 newborn babies (age 4 days) were screened in this project between the years 1995-2003

- 33 cases were confirmed to have hypothyroidism (1:2000)
- The SAEC is now discussing with the health ministry the possibility to transfer this program to the health ministry to be conducted at national level as a permanent program.
- The technologies used for newborn screening in Syria were RIA, IRMA.

- The existing barriers in developing or improving newborn screening program in Syria:
 - Enough financial resources
 - Equipment to establish a central Lab at major cities level
 - Reagents (preferably locally produced reagents)

The genetic diseases are most prevalent in Syria

1. Congenital malformations
2. Chromosomal disorders:
mainly DOWN Syndrome

18-25	Years	1:150
25-35	Years	1:650
35-40	Years	1:300
40-45	Years	1:150
> 45	Years	1:50

- ☞ Thalassemia: 6 % carriers
7000 cases
- ☞ Sickle cell anemia: 6 % carriers
2000 cases
- ☞ G6PD: 20 000 cases
confirmed in central clinic
- ☞ Congenital hypothyroids: 1: 2000

- ☞ Phenylketonuria: 73 cases under follow-up in one main center in the last 5 years
- ☞ Cystic fibrosis: 44 cases under follow-up in one main center in the last 5 years
another 20 cases are currently under diagnosis

The conditions we would like to screen for

1. Thalassemia
2. Sickle cell anemia
3. G6PD
4. Congenital hypothyroidism
5. Phenylketonuria
6. Cystic fibrosis

Follow-up the genetic conditions after they are identified

1. The best possible patient treatment
2. Follow – up
3. Genetic counseling for parents

There is no birth defects registry in Syria

Currently there is no proper research projects
related to newborn screening in Syria ...

(some individual studies)



Thank you